

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-050436

(43)Date of publication of application : 21.02.1995

(51)Int.Cl.

H01L 41/18
H03H 9/25

(21)Application number : 05-215091

(71)Applicant : MURATA MFG CO LTD

(22)Date of filing : 05.08.1993

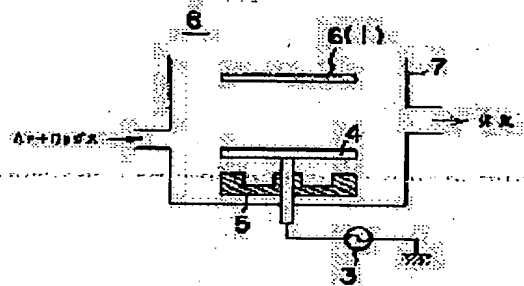
(72)Inventor : KOIKE JUN
IEGI EIJI

(54) ZINC OXIDE PIEZOELECTRIC CRYSTAL FILM ON SAPPHIRE FACE

(57)Abstract:

PURPOSE: To form a Q-face ZnO epitaxial film doped with Cu at a specified rate on a sapphire face roughly parallel to the R face and to form a Q-face ZnO epitaxial film having a good orientation property on the sapphire face roughly parallel to the R face.

CONSTITUTION: A Zn metal target doped with a prescribed amount of Cu is used as a target 4 and at the same time, Ar+O₂ gas is introduced into a container 7 and the target 4 is sputtered by Ar particles to eject Zn particles and Cu particles from the targets 4. The Zn particles made to fly out reacted with the Ar+O₂ gas to turn into ZnO particles and a face (11 bar-20) ZnO epitaxial film doped with Cu at a rate of 4.5 pts.wt. or lighter to 95.5 pts.wt. of Zn can be obtained on a sapphire face roughly parallel to the face (01 bar-12) set using the ZnO particles and the Cu particles as samples. Or a ZnO ceramic target 4 doped with a prescribed amount of Cu is used, the target 4 is sputtered by Ar particles and ejected ZnO and Cu particles are deposited on a sample 6 to obtain the epitaxial film.



LEGAL STATUS

[Date of request for examination] 27.05.1999

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3085043

[Date of registration] 07.07.2000

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office